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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,842	01/25/2006	Alexander Golitschek Edler Von Elbwart	L7725.05108	5177
52989 7590 11/01/2007 STEVENS, DAVIS, MILLER & MOSHER, LLP 1615 L. STREET N.W. SUITE 850 WASHINGTON, DC 20036			EXAMINER LAMARRE, GUY J	
			ART UNIT 2112	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/538,842	Applicant(s) GOLITSCHKE EDLER VON ELBWART ET AL	
	Examiner Guy J. Lamarre	Art Unit 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005 and 22 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/13/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

* Pursuant to 35 USC 131, **Claims 1-17** are presented for examination.

Double Patenting (non-statutory)

1. The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); In re Van Omum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985) and In re Goodman, 29 USPQ2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(b) and may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78(d).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

.1 Instant claimed invention is not patentably distinct from patented claimed invention of US Patent application No. **10/538934** although the conflicting claims are not identical.

.1.b **For example: Claim(s) 5** of USP application No. **10/538934** contain(s) every element of instant **Claim(s) 1** and as such anticipate(s) instant **Claim(s) 1**.

.1.c "A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or **anticipated by**, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at

issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). “ ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

.2 This is a provisional obviousness-type double patenting.

Claim Rejections - 35 USC § 102

2. **Claims 1-17** are rejected under 35 U.S.C. 102 as being anticipated by resp. (EP No. 1 170 898; 9 January 2002) to **Nafie et al.**, and ‘*Advanced Hybrid ARQ Technique Employing a Signal Constellation Rearrangement*,’ to **Wengerter et al.**- IDS of 6/13/2005.

.1.a **As per Claim 1, Nafie et al.** discloses equivalent method for transmitting data from a transmitter to a receiver of an ARQ communication system (para. 7) comprising the steps of: encoding (para. 8 line 46 and Fig. 2) data received from a signal source using a forward error correction (FEC) code to generate Galois field (GF) symbols; mapping (page 2 last line) the GF symbols using quadrature phase shift keying (QPSK) as modulation scheme; transmitting (page 2 col. 2 line 56) the QPSK modulation symbols to the receiver; and retransmitting modified QPSK modulation symbols to the receiver. e.g., in page 3 col. 1 line 18 et seq.

As per Claim 2, Nafie et al. discloses method according to claim 1, wherein the modified QPSK modulation symbols are obtained by modifying the GF symbols prior to QPSK modulation, e.g., in page 3 col. 1 line 18 et seq.

As per Claim 3, Nafie et al. discloses equivalent method according to claim 2, wherein the modification is obtained by an arithmetic operation, e.g., in page 3 col. 1 line 18 et seq.

As per Claim 4, Nafie et al. discloses equivalent method according to claim 3, wherein the arithmetic operation is a multiplication of the GF symbols with a varying multiplier e.g., in

page 3 col. 1 line 18 et seq.

As per Claim 5, Nafie et al. discloses method according to claim 4, wherein the multiplier is related to a transmission number, e.g., in page 3 col. 1 line 18 et seq.

As per Claim 6, Nafie et al. discloses equivalent method according to claim 1, wherein the modified QPSK modulation symbols are obtained by mapping the GF symbols using a different QPSK-modulation scheme, e.g., in page 3 col. 1 line 18 et seq.

As per Claim 7, Nafie et al. discloses equivalent The method according to claim 1, wherein the modification of the QPSK modulation symbols is selected such that a maximum uniform distribution of the accumulated Euclidean distance between the symbols is obtained, e.g., in page 3 col. 1 line 18 et seq.

As per Claim 8, Nafie et al. discloses equivalent method according to claim 1, wherein the GF symbols are GF(4) symbols, which are obtained either directly from the encoding operation or after conversion of GF(2) encoder symbols prior to QPSK modulation, e.g., in page 2 col. 2 line 46 et seq.

As per Claim 9, Nafie et al. discloses equivalent transmitter for use in an ARQ communication system comprising: a forward error correction (FEC) encoder for receiving data from a signal source and generating Galois field (GF) symbols; a mapping unit for mapping the GF symbols using QPSK as modulation scheme; and a transmission unit for transmitting QPSK modulation symbols and modified QPSK modulation symbols to a receiver, e.g., in page 2 col. 2 line 46 et seq.

As per Claim 10, Nafie et al. discloses equivalent transmitter according to claim 9, wherein the mapping unit comprises a plurality of mappers with different modulation schemes to generate the modified QPSK modulation symbols in accordance with a transmission pattern, e.g., in page 2 col. 2 line 46 et seq.

As per Claim 11, Nafie et al. discloses equivalent transmitter according to claims 9 or 10, further comprising a multiplication unit for multiplying the GF symbols using a multiplier, which is related to a transmission number e.g., in page 2 col. 2 line 46 et seq.

As per Claim 12, Nafie et al. discloses equivalent transmitter according to claim 9, further comprising a converter for converting encoded GF(2) symbols into GF(4) symbols, e.g., in page 2 col. 2 line 46 et seq.

As per Claim 13, Nafie et al. discloses equivalent receiver in an ARQ communication system comprising: a demapping unit for demapping received GF symbols modulated with QPSK as modulation scheme, said demapping unit being adapted to demodulate GF symbols, which have been modified in accordance with a transmission pattern; and an FEC (para. 8 line 46 and Fig. 2) decoder for decoding and combining the output of said demapping unit, e.g., in page 2 col. 2 line 46 et seq.

As per Claim 14, Nafie et al. discloses equivalent receiver according to claim 13, wherein the demapping unit comprises a plurality of demappers with different demodulation schemes selected in accordance with a transmission pattern e.g., in page 2 col. 2 line 46 et seq.

As per Claim 15, Nafie et al. discloses equivalent receiver according to claim 13 or 14, further comprising a multiplication unit for multiplying the GF symbols using a multiplier, which is related to a transmission number. e.g., in page 2 col. 2 line 46 et seq.

As per Claim 16, Nafie et al. discloses equivalent receiver according to claim 13, wherein the FEC decoder (para. 8 line 46 and Fig. 2) performs error decoding on the principle of Euclidean distances in the complex signal space e.g., in page 3 col. 1 line 18 et seq.

As per Claim 17, Nafie et al. discloses equivalent communication system comprising a transmitter according to claim 9 and a receiver comprising (i) a demapping unit for demapping

received GF symbols modulated with QPSK as modulation scheme, said demapping unit being adapted to demodulate GF symbols, which have been modified in accordance with a transmission pattern, and (ii) an FEC (para. 8 line 46 and Fig. 2) decoder for decoding and combining the output of said demapping unit, e.g., page 3 col. 1 line 18.

.1.b As per Claim 1, Wengerter et al. discloses equivalent method for transmitting data from a transmitter to a receiver of an ARQ communication system comprising the steps of: encoding data received from a signal source using a forward error correction (FEC) code to generate Galois field (GF) symbols; mapping (page 2 last line) the GF symbols using quadrature phase shift keying (QPSK) as modulation scheme; transmitting the QPSK modulation symbols to the receiver; and retransmitting modified QPSK modulation symbols to the receiver. e.g., in Table III and Figs. 1-5.

As per Claim 2, Wengerter et al. discloses method according to claim 1, wherein the modified QPSK modulation symbols are obtained by modifying the GF symbols prior to QPSK modulation, e.g., in Table III and Figs. 1-5.

As per Claim 3, Wengerter et al. discloses equivalent method according to claim 2, wherein the modification is obtained by an arithmetic operation, e.g., in Table III and Figs. 1-5.

As per Claim 4, Wengerter et al. discloses equivalent method according to claim 3, wherein the arithmetic operation is a multiplication of the GF symbols with a varying multiplier e.g., in in Table III and Figs. 1-5.

As per Claim 5, Wengerter et al. discloses method according to claim 4, wherein the multiplier is related to a transmission number, e.g., in Table III and Figs. 1-5.

As per Claim 6, Wengerter et al. discloses equivalent method according to claim 1, wherein the modified QPSK modulation symbols are obtained by mapping the GF symbols using a different QPSK-modulation scheme, e.g., in Table III and Figs. 1-5.

As per Claim 7, Wengerter et al. discloses equivalent The method according to claim 1, wherein the modification of the QPSK modulation symbols is selected such that a maximum uniform distribution of the accumulated Euclidean distance between the symbols is obtained, e.g., in in Table III and Figs. 1-5.

As per Claim 8, Wengerter et al. discloses equivalent method according to claim 1, wherein the GF symbols are GF(4) symbols, which are obtained either directly from the encoding operation or after conversion of GF(2) encoder symbols prior to QPSK modulation, e.g., in in Table III and Figs. 1-5.

As per Claim 9, Wengerter et al. discloses equivalent transmitter for use in an ARQ communication system comprising: a forward error correction (FEC) encoder for receiving data from a signal source and generating Galois field (GF) symbols; a mapping unit for mapping the GF symbols using QPSK as modulation scheme; and a transmission unit for transmitting QPSK modulation symbols and modified QPSK modulation symbols to a receiver, e.g., in in Table III and Figs. 1-5.

As per Claim 10, Wengerter et al. discloses equivalent transmitter according to claim 9, wherein the mapping unit comprises a plurality of mappers with different modulation schemes to generate the modified QPSK modulation symbols in accordance with a transmission pattern, e.g., in in Table III and Figs. 1-5.

As per Claim 11, Wengerter et al. discloses equivalent transmitter according to claims 9 or 10, further comprising a multiplication unit for multiplying the GF symbols using a multiplier, which is related to a transmission number e.g., in in Table III and Figs. 1-5.

As per Claim 12, Wengerter et al. discloses equivalent transmitter according to claim 9, further comprising a converter for converting encoded GF(2) symbols into GF(4) symbols, e.g., in in Table III and Figs. 1-5.

As per Claim 13, Wengerter et al. discloses equivalent receiver in an ARQ communication system comprising: a demapping unit for demapping received GF symbols modulated with QPSK as modulation scheme, said demapping unit being adapted to demodulate GF symbols, which have been modified in accordance with a transmission pattern; and an FEC decoder for decoding and combining the output of said demapping unit, e.g., in Table III and Figs. 1-5.

As per Claim 14, Wengerter et al. discloses equivalent receiver according to claim 13, wherein the demapping unit comprises a plurality of demappers with different demodulation schemes selected in accordance with a transmission pattern e.g., in page 2 col. 2 line 46et seq.

As per Claim 15, Wengerter et al. discloses equivalent receiver according to claim 13 or 14, further comprising a multiplication unit for multiplying the GF symbols using a multiplier, which is related to a transmission number. e.g., in Table III and Figs. 1-5.

As per Claim 16, Wengerter et al. discloses equivalent receiver according to claim 13, wherein the FEC decoder performs error decoding on the principle of Euclidean distances in the complex signal space e.g., in in Table III and Figs. 1-5.

As per Claim 17, Wengerter et al. discloses equivalent communication system comprising a transmitter according to claim 9 and a receiver comprising (i) a demapping unit for demapping received GF symbols modulated with QPSK as modulation scheme, said demapping unit being adapted to demodulate GF symbols, which have been modified in accordance with a transmission pattern, and (ii) an FEC decoder for decoding and combining the output of said demapping unit, e.g., in Table III and Figs. 1-5.

CONCLUSION

* Any response to this action should be mailed to:

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or faxed to: (571) 273-8300 for all formal communications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guy J. Lamarre, P.E., whose telephone number is (571) 272-3826. The examiner can normally be reached on Monday to Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques, can be reached at (571) 272-6962.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-3609.

Information regarding the status of an application may also be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Guy J. Lamarre, P.E.
Primary Examiner
